

SEQUENCE LISTING

<110> CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE

<120> METHOD OF DIAGNOSIS OF OBESITY

<130> Q88618

<140> US 10/538,922

<141> 2005-06-13

<150> EP 02 293 085

<151> 2002-12-13

<160> 15

<170> PatentIn Ver. 2.1

<210> 1

<211> 1758

<212> DNA

<213> Homo sapiens

<220>

<223> gad2 gene

<400> 1

```
atggcatctc cgggctcttg cttttggtct ttcgggtcgg aagatggctc tggggattcc 60
gagaatcccc gcacagcgcg agcctggtgc caagtggctc agaagttcac gggcggcatc 120
ggaaacaaac tgtgcgccct gctctacgga gacgccgaga agccggcgga gagcggcggg 180
agccaacccc cgcgggcccgc cgcccgggaag gccgcctgcg cctgcgacca gaagccctgc 240
agctgctcca aagtggatgt caactacgcy tttctccatg caacagacct gctgccggcg 300
tgtgatggag aaaggcccac tttggcgttt ctgcaagatg ttatgaacat tttacttcag 360
tatgtggtga aaagtttcga tagatcaacc aaagtgattg atttccatta tcctaattgag 420
cttctccaag aatataattg ggaattggca gaccaaccac aaaatttgga ggaaattttg 480
atgcattgcc aaacaactct aaaatatgca attaaaacag ggcattcctag atacttcaat 540
caactttcta ctggtttgga tatggttggg ttagcagcag actggctgac atcaacagca 600
aatactaaca tgttcaccta tgaaattgct ccagtatttg tgcttttggg atatgtcaca 660
ctaaagaaaa tgagagaaaat cattggctgg ccagggggct ctggcgatgg gatattttct 720
cccggtggcg ccataatctaa catgtatgcc atgatgatcg cacgctttaa gatgttccca 780
gaagtcaagg agaaaggaat ggctgctctt cccaggctca ttgccttcac gtctgaacat 840
agtcattttt ctctcaagaa gggagctgca gccttaggga ttggaacaga cagcgtgatt 900
ctgattaaat gtgatgagag agggaaaatg attccatctg atcttgaaag aaggattctt 960
gaagccaaac agaaagggtt tgttcctttc ctctgtgagtg ccacagctgg aaccaccgtg 1020
tacggagcat ttgacccccct cttagctgtc gctgacattt gcaaaaagta taagatctgg 1080
atgcatgtgg atgcagcttg ggggtggggga ttactgatgt cccgaaaaca caagtggaaa 1140
ctgagtggcg tggagagggc caactctgtg acgtggaatc cacacaagat gatgggagtc 1200
cctttgcagt gctctgctct cctgggtaga gaagagggat tgatgcagaa ttgcaaccaa 1260
atgcattgct cctacctctt tcagcaagat aaacattatg acctgtccta tgacactgga 1320
gacaaggcct tacagtgcgg acgccacgtt gatgttttta aactatggct gatgtggagg 1380
gcaaagggga ctaccgggtt tgaagcgcat gttgataaat gtttggagtt ggcagagtat 1440
ttatacaaca tcataaaaaa ccgagaagga tatgagatgg tgtttgatgg gaagcctcag 1500
cacacaaatg tctgcttctg gtacattcct ccaagcttgc gtactctgga agacaatgaa 1560
gagagaatga gtcgcctctc gaaggtggct ccagtgatta aagccagaat gatggagtat 1620
ggaaccacaa tggtcagcta ccaacccttg ggagacaagg tcaatttctt ccgcatggct 1680
atctcaaacc cagcggcaac tcaccaagac attgacttcc tgattgaaga aatagaacgc 1740
cttggacaag atttataa
```

<210> 2

<211> 2382
 <212> DNA
 <213> Homo sapiens

<220>
 <223> 5' flanking region of gad2 gene nucleotides

<220>
 <223> R = G or A

<220>
 <223> Y = T or C

<220>
 <223> M = A or C

<220>
 <223> W = A or T

<220>
 <223> S = G or C

<400> 2
 gaaaaaaaaa tcagttaaatt tcaggtgttt taatccgttt cttctttggg ggttttgtgt 60
 gatttaaacy cttgctttta agaaccttta tgttttcaac cactcatcca tagtagaaaa 120
 gttctgcaac cctagactgc tggcttgaag gaaaaccttt gcaggatttg atatggattt 180
 caacaaagaa ccagcctctg cgaggctgga gagagctgcg gagctgccat gcctgaagtg 240
 cagatggctg aaccacaagt ctttaggttt cgggagttgt tattgtggtg acctagagtg 300
 tcagagccag gagagcaaga aagaggagcc aaactgagcc ctgagttttc gaccaccg 360
 gctcccacag cctggwacag acttcaccta gcacgctcag tgccagcctt cggcaggacg 420
 ctatcaacgc cgcactggwt tcytgctctc atcctggcgc ctgggcccag ttgccatagt 480
 gtggatccca tgactcctca gggaacccct ggactcaggc acgcgagaag aagacagcgc 540
 tttgtggaga gaattgacca gggacagtta tgctcgagca cacaggactt gggcctgtat 600
 gcgtccagca tgggcccag gatgtccctt ctaagcgagg gtcgaggggt gctcgcccag 660
 acgggatccc cgggtctctg ctttgtttagc agctttggtg gctgggttcag gaggtcagag 720
 aaataaaacy acttgtgaac acaatggaaa tgacaggcgc tctggccagg cgcggggaar 780
 gcagccgcct cgggaagccg acctagccc tttcctctct ctccctccct ccgtctcccc 840
 cagagccccg gagctccgag gtgcacttga agttcatctc cactgccagg agaacgcagc 900
 gcaaactgtc aaagggtccc caatccttag ggcgtccctc ctgtctgcaa tagctttttg 960
 tagaaaggaa atcatcagaa mgattctgac tttctcctcc tttctttatt agaaaaagag 1020
 aaaccgcctc ctaatacgcc tcagagagaa ccaatctcgc gcttccgggt caccgcctac 1080
 cgcaagatt ctctgggggc gagggggggc attggtttga agccccttaa aacgagggcc 1140
 ctgcaggcga tgccttcttt cctactcgga tttgtaaagc cgagattgct tagttggaaa 1200
 ccctgttctc ccctcccagg cgcacacaga tcccccttac acgcaagcag cgggcgcttc 1260
 cacgcctccg cgggccaaag tcaccaaatt ccctgattcc atccccacc cgccatcaat 1320
 cctgccgact ctggccgctc tgccctcatt tcttccaaga agtttccatt cgttttattt 1380
 ttttttcccc agcccagagt cctcagtaga ctccagcgtg gattttaatt gcctcaatca 1440
 gcagtcattc tccccagcgc tcaactcagag cctggacggg gggctcccgc atctagccct 1500
 tggctacgca ggaacgggtc gccccgggt acggcgcggt tcagcaggca ggcgtcagg 1560
 tctaccaagg cgctgaaatg agcccatcag cgggtaggag cccttcccc gccgtccct 1620
 ccccaggctc gtgaacggcg cctgatgcc gcccggggcg cgagctctcg aggtcgcagt 1680
 gacctcagca cctgcttggg ggaacgggc gcggaaccc cgcttccttc ccctcagctg 1740
 gagccagacc tcaaacaaaa cccaatcga tgcacacaga aaactcctct gggccacgct 1800
 tcccgctctg ccgaggtctc ccagctctgc ccctcgctga cgctggcgcg cagcsgctgt 1860
 ggcagcacc gggacagcgg ccgcccgcac tccccgcctc tggctcgccc gaggacgcgc 1920
 tggcagcct cccacccct cactctgact ccagctggcg tgcattggtc gcctcgcatc 1980
 ctacagactc agctccctcc ctctctcggt ttttttctc ccgcccgcct ctattcattc 2040
 cccactgggc tccctttccc tcaaatgctc tggggctctc cgcgcttttc tgagtccggg 2100
 ctccgaggac ccttaggtag tcccggtctc ttttaargct ccccggttc caaagggttg 2160
 ccacgtccct aaaccctgtc tccagctcgc atacacacac gcacagacac gcacgttttc 2220

tgttctctgcg tgacacccgc cctcgccgct cggccccgcc ggcccccgcg cgggtgccctc 2280
 ctccccgccac acggggcacgc acgcgcgcgc agggccaagc ccgaggcagc tcgccccgag 2340
 ctcgcactcg caggcgacct gctccagtct ccaaagccga tg 2382

<210> 3
 <211> 519
 <212> PRT
 <213> Homo sapiens

<220>
 <223> DNA-binding protein Ikaros (Lymphoid transcription factor
 LyF-1)

<400> 3
 Met Asp Ala Asp Glu Gly Gln Asp Met Ser Gln Val Ser Gly Lys Glu
 1 5 10 15
 Ser Pro Pro Val Ser Asp Thr Pro Asp Glu Gly Asp Glu Pro Met Pro
 20 25 30
 Ile Pro Glu Asp Leu Ser Thr Thr Ser Gly Gly Gln Gln Ser Ser Lys
 35 40 45
 Ser Asp Arg Val Val Ala Ser Asn Val Lys Val Glu Thr Gln Ser Asp
 50 55 60
 Glu Glu Asn Gly Arg Ala Cys Glu Met Asn Gly Glu Glu Cys Ala Glu
 65 70 75 80
 Asp Leu Arg Met Leu Asp Ala Ser Gly Glu Lys Met Asn Gly Ser His
 85 90 95
 Arg Asp Gln Gly Ser Ser Ala Leu Ser Gly Val Gly Gly Ile Arg Leu
 100 105 110
 Pro Asn Gly Lys Leu Lys Cys Asp Ile Cys Gly Ile Ile Cys Ile Gly
 115 120 125
 Pro Asn Val Leu Met Val His Lys Arg Ser His Thr Gly Glu Arg Pro
 130 135 140
 Phe Gln Cys Asn Gln Cys Gly Ala Ser Phe Thr Gln Lys Gly Asn Leu
 145 150 155 160
 Leu Arg His Ile Lys Leu His Ser Gly Glu Lys Pro Phe Lys Cys His
 165 170 175
 Leu Cys Asn Tyr Ala Cys Arg Arg Arg Asp Ala Leu Thr Gly His Leu
 180 185 190
 Arg Thr His Ser Val Gly Lys Pro His Lys Cys Gly Tyr Cys Gly Arg
 195 200 205
 Ser Tyr Lys Gln Arg Ser Ser Leu Glu Glu His Lys Glu Arg Cys His
 210 215 220
 Asn Tyr Leu Glu Ser Met Gly Leu Pro Gly Thr Leu Tyr Pro Val Ile
 225 230 235 240

Lys Glu Glu Thr Asn His Ser Glu Met Ala Glu Asp Leu Cys Lys Ile
 245 250 255
 Gly Ser Glu Arg Ser Leu Val Leu Asp Arg Leu Ala Ser Asn Val Ala
 260 265 270
 Lys Arg Lys Ser Ser Met Pro Gln Lys Phe Leu Gly Asp Lys Gly Leu
 275 280 285
 Ser Asp Thr Pro Tyr Asp Ser Ser Ala Ser Tyr Glu Lys Glu Asn Glu
 290 295 300
 Met Met Lys Ser His Val Met Asp Gln Ala Ile Asn Asn Ala Ile Asn
 305 310 315 320
 Tyr Leu Gly Ala Glu Ser Leu Arg Pro Leu Val Gln Thr Pro Pro Gly
 325 330 335
 Gly Ser Glu Val Val Pro Val Ile Ser Pro Met Tyr Gln Leu His Lys
 340 345 350
 Pro Leu Ala Glu Gly Thr Pro Arg Ser Asn His Ser Ala Gln Asp Ser
 355 360 365
 Ala Val Glu Asn Leu Leu Leu Leu Ser Lys Ala Lys Leu Val Pro Ser
 370 375 380
 Glu Arg Glu Ala Ser Pro Ser Asn Ser Cys Gln Asp Ser Thr Asp Thr
 385 390 395 400
 Glu Ser Asn Asn Glu Glu Gln Arg Ser Gly Leu Ile Tyr Leu Thr Asn
 405 410 415
 His Ile Ala Pro His Ala Arg Asn Gly Leu Ser Leu Lys Glu Glu His
 420 425 430
 Arg Ala Tyr Asp Leu Leu Arg Ala Ala Ser Glu Asn Ser Gln Asp Ala
 435 440 445
 Leu Arg Val Val Ser Thr Ser Gly Glu Gln Met Lys Val Tyr Lys Cys
 450 455 460
 Glu His Cys Arg Val Leu Phe Leu Asp His Val Met Tyr Thr Ile His
 465 470 475 480
 Met Gly Cys His Gly Phe Arg Asp Pro Phe Glu Cys Asn Met Cys Gly
 485 490 495
 Tyr His Ser Gln Asp Arg Tyr Glu Phe Ser Ser His Ile Thr Arg Gly
 500 505 510
 Glu His Arg Phe His Met Ser
 515

<210> 4

<211> 20

<212> DNA

<213> Artificial Sequence

<220>
 <223> Chemically synthesized Primer to amplify SNP - 243

 <400> 4
 cctcaaatgc tctggggctc 20

 <210> 5
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Chemically synthesized Primer to amplify SNP - 243

 <400> 5
 ggtgtcacgc aggaacagaa 20

 <210> 6
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Chemically synthesized Primer to amplify SNP - 243

 <400> 6
 gtctctttta aagctccccg gct 23

 <210> 7
 <211> 28
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Chemically synthesized Primer to amplify SNP - 243

 <400> 7
 cgggctccga ggacccttag gtagtccc 28

 <210> 8
 <211> 17
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Chemically synthesized Primer to amplify SNP - 1.6 kb

 <400> 8
 ctgaggcgta ttaggag 17

 <210> 9
 <211> 17
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Chemically synthesized Primer to amplify SNP - 1.6 kb

 <400> 9
 ctctaataac gcctcag 17

 <210> 10
 <211> 16
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Chemically synthesized Primer to amplify SNP - 1.6 kb

 <400> 10
 ggaaagcagc cgcctc 16

 <210> 11
 <211> 30
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Chemically synthesized Primer to amplify SNP - 1.6 kb

 <400> 11
 tggaaatgac aggcgctctg gccaggcgcg 30

 <210> 12
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Chemically synthesized Primer to amplify SNP - 2004

 <400> 12
 tgttttcaac cactcatcca t 21

 <210> 13
 <211> 17
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Chemically synthesized Primer to amplify SNP - 2004

 <400> 13
 agggacagtt atgctcg 17

 <210> 14
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
<223> Chemically synthesized Primer to amplify SNP - 2004

<400> 14
acagcctggt acagactt

18

<210> 15
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Chemically synthesized Primer to amplify SNP - 2004

<400> 15
tgagttttcg accacccggg etc

23